

ABSTRACT

There is described a method for depicting a predetermined pattern, such as a diffraction pattern employed in an optical element, on a substrate. The method includes the steps of: acquiring shape data of the predetermined pattern; generating a first input signal for deflecting an electron beam emitted from an electron gun in a main-scanning direction, and a second input signal for deflecting the electron beam in a sub-scanning direction, based on the shape data of the predetermined pattern; adjusting an alternating bias signal, having a specific frequency, according to the shape data of the predetermined pattern; superposing the alternating bias signal on the second input signal; and deflecting the electron beam emitted from the electron gun in the sub-scanning direction according to the second input signal on which the alternating bias signal is superposed, while scanning the electron beam by deflecting it in a main-scanning direction.